

**REACHING HIGHER WITH COLLEGE PREPARATION
STUDENTS, TEACHERS AND SCHOOL LEADERS
WORKING PAPER***

Indiana Commission for Higher Education
101 West Ohio Street, Suite 550
Indianapolis, Indiana 46204
Tel: (317) 464-4400
Fax: (317) 464-4410

*This working paper is a supplement to the Commission's *Reaching Higher: Strategic Directions for Higher Education in Indiana* adopted in June 2007. The working paper was prepared to elicit further discussion and define action items for moving forward with strategic directions with college preparation.

The Challenge

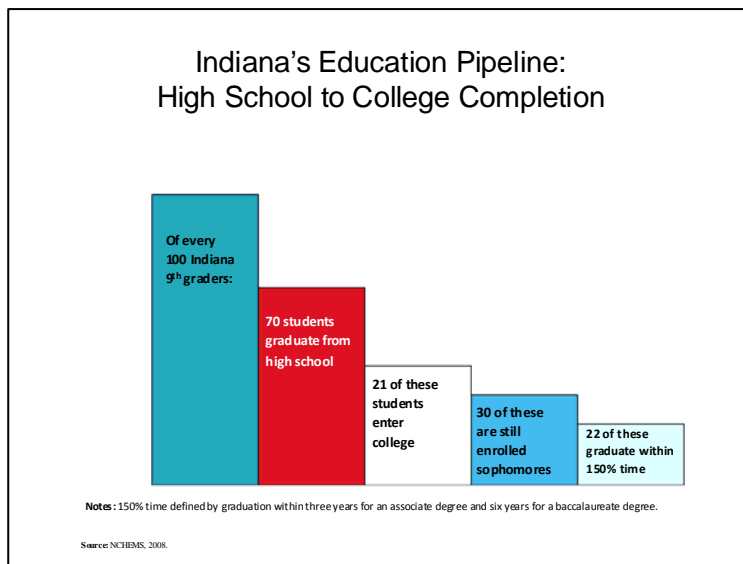
Our high schools are failing to prepare enough students for success in college and the workplace. Nearly a quarter of students drop out of high school without graduating, and large numbers of those who do earn diplomas often find that they are not adequately prepared for the next step. Nearly one-third of high school graduates who go to college are immediately enrolled in remedial courses due to gaps in their preparation.

Students entering postsecondary education inadequately prepared for the rigors of college often are placed in noncredit or remedial (i.e. high school-level) courses wherein they pay college tuition to learn high school-level skills and concepts. As a result, these students take longer to complete their programs of study and are left with larger debt upon graduation.

Postsecondary remediation cannot make up for inadequate preparation in high school. Studies indicate that more than three-quarters (76 percent) of all students who take remedial courses in reading and nearly two-thirds (63 percent) of students who take one or two remedial courses in math fail to earn degrees, according to the [National Center for Education Statistics](#) (NCES). According to NCES, over half (53%) of college freshman take a remedial course.

For every 100 ninth-grade students in Indiana, only 70 graduate from high school on time, only 41 enroll immediately in college, only 30 are still enrolled in their sophomore year, and only 22 graduate from college. For students growing up in low-income families, fewer than 9 of these students will earn a bachelor's degree by age 24. The gaps by race are also stark, with African-Americans between ages 25 and 29 attaining bachelor's degrees at nearly one-half - and Latinos at one-third - the rate of Caucasians.

At a time when experts say that roughly two-thirds of new jobs will require education beyond high school this is particularly problematic. Without significant improvements across our P-16 educational system and deliberate efforts to close achievement gaps, the future well-being of our economy, our democracy and our position as national leaders in the world are at risk.



Academic Preparation for College-Success (K-12 Pipeline)

Research indicates that the best predictor of success in college is the academic preparation received in high school. Research also indicates that rigorous course-taking in high school can overcome a variety of determining factors and socio-economic circumstances, including poverty and the level of parental education.

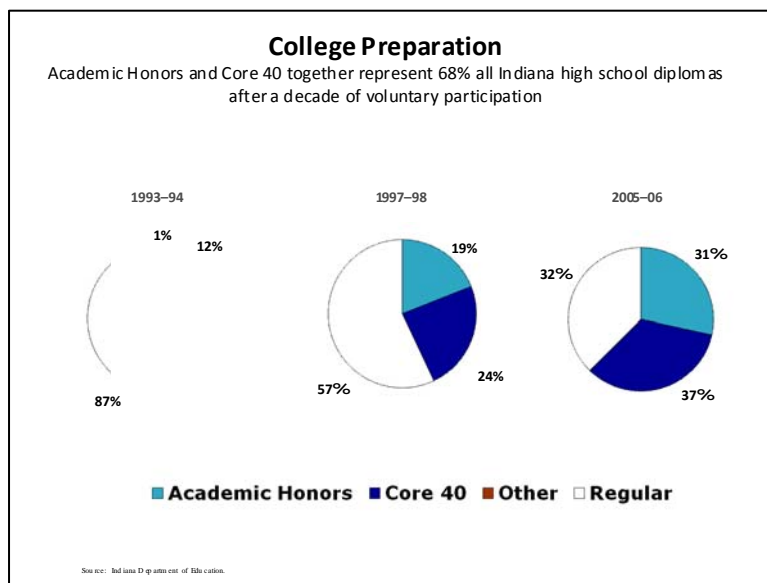
Regardless of whether new high school graduates aspire to careers requiring a college degree, technical certificate or apprenticeship, the prerequisites are virtually the same—algebra, geometry, laboratory sciences and strong communication skills. Today's global economy adds foreign languages to these expectations.

Indiana has done a good job of identifying and communicating course expectations (Core 40) for college- and work-readiness. Collaborative work by K-12, higher education and the business community has significantly moved more students through these important courses (68% graduated with Core 40 in spring 2006). More recent policy changes called for by Indiana's Education Roundtable and supported by the Commission for Higher Education take additional steps to ensure all students get these important classes by making Core 40 the required high school curriculum beginning with the graduating class of 2011.

While this progress is significant, many states are calling for all students to take even more mathematics (four years of high school math) and a world language. Currently these expectations are encouraged, but not required for Core 40.

Recommendations:

- Indiana's colleges and universities should encourage more students to complete Core 40 with Academic and Technical Honors – so that by 2011, at least 50% of Indiana high school students complete one of these diplomas.
- Ball State University, Indiana University-Bloomington, and Purdue University-West Lafayette should move toward requiring Core 40 with Academic and Technical Honors as a minimum admissions standard – allowing time to clearly communicate this increased expectation to students, families and high schools.
- Indiana's colleges and universities should be intentional partners in efforts to grow the pool of Hoosier students meeting this more rigorous requirement. Particular attention should be paid to closing achievement gaps that exist between minority and low-income students and their non-poor peers.
- Indiana should require students to take a rigorous math class their senior year and world language should become a core course requirement to earn a Core 40 diploma.



Ensuring Core 40 Rigor

While Indiana students are taking and completing more Core 40 courses, Indiana high schools must be as attentive to ensuring the rigor of these courses. Research shows that the quality and intensity of the high school curriculum is the single most important predictor of college completion.

Results on multiple assessments including statewide end-of-course exams and college placement tests indicate a significant number of

- End-of-Course Assessments
 - 20% - Pass Rate for Algebra I
 - 50% - Pass rate for English Grade 11
- Pilot College Readiness Indicator
Participating high school students completing Algebra II course:
 - 5% - Would place in college-level math
 - 95% - Were not proficient in Algebra II
 - 57% - Were not proficient in Algebra I
- 35% of students at a public university receive low grades (**D or F**) in **or withdrawal** from their 1st college-level math course

students are not learning the academic content called for in Indiana's Academic Standards for Core 40. Assessment results also show wide discrepancies of learning not only among high schools across the state, but also between classrooms in the same high school.

Increased access to higher education does not guarantee success. While currently 62% of Hoosier students go directly to 2-year or 4-year colleges after graduating from high school, nearly a quarter of Indiana college students do not return for their second year of college. While reasons for dropping out are many, one factor is clear: access without the preparation to succeed is not a true college opportunity.

Ensuring all students get a full-dose of the rigor they deserve must be a priority. Higher education has important work to do to assist with this effort. Indiana high schools and their faculties have been asking for meaningful feedback from colleges on the success of their students. They need consistent information that they can work with to improve student learning. Core 40 sends a clear message about the courses students must take – a more specific and consistent state-wide definition of ready to begin credit-bearing coursework is needed.

A Call for a Common Measure of Readiness to Begin Credit-bearing Coursework

In Indiana, like most states, individual colleges determine whom to admit, and then after admittance, administer placement tests—usually in reading, writing and math—to distinguish between students who are ready for credit-bearing study and those who need “remedial” work. However, each college uses a different test and/or a different cut score. While it may be appropriate for colleges with different missions to admit students on a range of criteria relevant to their individual institutions, it is reasonable to ask that our institutions agree at least on the core reading, writing and mathematics skills necessary to begin college-level work. In other words – what level of achievement should students demonstrate to show they are college-ready?

According to The Education Trust, “failure to provide a solid and consistent achievement definition leaves our high schools vulnerable to merciless beatings in the press for increases in the number of recent graduates requiring ‘remediation’ in college—not because preparation actually got worse (it may have gotten better) but because this graduating class attended a slightly different mix of higher education institutions requiring a different mix of placement tests.”

Indiana has done more in the way of aligning high school curriculum with college admissions than most other states – but more opportunity exists to provide earlier and more frequent and meaningful feedback to students and schools. A best practice model can be found in California. For example, the California State University System recognized that many students, despite earning the appropriate grades in challenging coursework were requiring a significant amount of remediation. In response, they created the Early Assessment Program, developed by the California State University System, the State Board of Education, and the California Department of Education. The program was established to provide opportunities for students to measure their readiness for college-level English and mathematics in their junior year of high school, and to facilitate opportunities for them to improve their skills during their senior year. (For additional information, visit <http://www.calstate.edu/eap/>).

Recommendations:

- Collectively, between K-12 and higher education, define a common metric (i.e., identified passing score on an assessment) that will be used to determine if a student is ready to start credit bearing college-level course work. This same information would determine the need for remediation.

- Make available to all schools and students a common set of tools that students may take advantage of at key points during their K-12 years. These assessments must provide understandable and dependable signals of whether or not a student is on-track for college-readiness. (i.e., ACT tools – EXPLORE, PLAN, ACT and College Board tools – new 8th grade assessment, PSAT, SAT; CSU Early Assessment Program; etc.).
- Communicate information from these college-ready assessments in meaningful ways that provide schools, teachers, students and families with a clear understanding of where the students are in terms of their academic progression. This information should be provided early and often so that the student can use the junior or senior year of high school to correct any deficiencies rather than taking remedial coursework in college.

Paying Particular Attention to Improving College-Readiness of Low Income and Minority Students

Meeting the challenges of a global economy will require dramatic improvement in closing the gaps that separate low-income and minority students from their peers. Simply raising college admissions standards without growing the pool of qualified applicants will not work.

The accompanying chart illustrated current realities of the gaps that exist between the desired admissions targets for IU-Bloomington and Purdue-West Lafayette and student populations meeting those desired targets.

GPA B+- A and SAT of 1200-1600	Number Tested	% of Total	SAT Average
Indian	18	0.32%	1319
Asian	245	4.31%	1356
Black	62	1.09%	1286
Latino	87	1.53%	1297
White	4933	86.77%	1297
Other	115	2.02%	1302
No Response	267	4.70%	1333
Total	5727		1301

Recommendations:

- Indiana's colleges and universities should work alongside school systems with high numbers of low-income and first generation college families to provide extra academic support. College faculty should be encouraged to develop long-standing relationships with high school faculty to support student success in key academic areas – assisting with instructional alignment between the last years of high school and first years of college.
- Indiana's colleges and universities should develop targeted initiatives to provide academic support and acceleration opportunities for 21st Century Scholars students in grades 6-12.
- Indiana's colleges and universities should be encouraged to provide “bridge” programs – to more actively support and recruit students.
- Advanced Placement course-taking information should be disaggregated at the state-level and the high school-level to provide information on who is receiving these opportunities. Efforts to expand AP and high quality dual credit should ensure that those most in need of this rigorous coursework get it. Pre-AP initiatives should be expanded to increase the number of students prepared to succeed in AP in high school.

Preparation of Teachers and School Leaders for K-12 Success (Higher Education Pipeline)

The quality of the teacher in the classroom is perhaps the most important factor in improving student achievement toward college-readiness. Studies show that students who have several strong teachers in a row will thrive no matter what their family background. Conversely, students who have just three consecutive weak teachers will perform poorly.

Poor and disadvantaged students are most likely to have the least qualified teachers, thus continuing the cycle of poverty and disenfranchisement. Indiana must do more to ensure that every student has a highly qualified and effective teacher.

Results from a Boston study of teacher effects are fairly typical. In just one academic year, the top third of teachers produced as much as six times the learning growth as the bottom third of teachers. In fact, 10th graders taught by the least effective teachers made nearly no gains in reading and even lost ground in math. Research in Tennessee and Texas revealed that these effects are cumulative and hold up regardless of the race, class or prior achievement of students.

In every subject area, students in high poverty schools are more likely than other students to be taught by teachers without even a minor in their fields. Additional research shows that when this pattern is reversed, and initially underperforming children are taught by the top tier teachers, they outperform initially high achieving students who are taught by bottom tier teachers.

Approximately 3,000 new teachers enter Indiana classrooms each year. A significant majority of these new teachers are prepared at Indiana institutions (40 accredited teacher preparation programs in Indiana). Thus, higher education must be ongoing partners with K-12, ensuring that the preparation new teachers, school counselors and school leaders receive is relevant and in step with the very real challenges they will face today – and provide the foundation for the adapting and re-skilling that will be necessary throughout their professional lifetime. It is especially important that Indiana's teachers be equipped in methodologies that are relevant, rigorous, and connected to engaging today's students, recognizing that historically prevalent traditional models may no longer be applicable or productive.

In our efforts to strengthen teacher preparation, Indiana should pay particular attention to comprehensive work being done in Louisiana. Their Blue Ribbon Commission on Teacher Quality has made significant gains in the area of teacher education reform including a complete redesign of teacher education programs at all public and private universities, strengthening of course content knowledge required of all teachers, implementation of an accountability system, ongoing professional development for teachers and streamlining of alternate certification programs to make it simpler and more attractive for qualified non-education graduates to move into teaching.

In addition, Arthur Levine shared with the Commission for Higher Education his call to reinvent schools of education using a model much like our teaching hospitals for those pursuing the field of medicine. Using this model, teacher education programs can become places where theory and application meet, hand in hand, on a daily basis. Unlike typical programs, a professional teaching school like that described above, allows students to enter the classroom long before the typical senior year student teaching experience.

Recommendations:

- Indiana's colleges and universities must make the preparation of educators and school leaders a top priority and align resources accordingly and work closely with our K-12 counterparts to improve the preparation of teachers, school leaders, counselors.
- Indiana should work to transform education schools into professional schools that focus on classroom practice. Medical schools provide a model.
- Indiana should collect and make available meaningful data to inform schools, institutions, the public and policymakers about the quality and effectiveness of teacher preparation programs throughout the state. The primary measure of program success should be student achievement.

- Indiana should continue developing longitudinal data systems that record student learning growth K-16. This would be an indication of how successful education schools are in preparing teachers to staff K-12 schools. Louisiana is a leading example of how universities can mine K-12 data to improve teacher preparation program.

A Call for Clear Content Knowledge Expectations

A recent analysis of state teacher preparation policies revealed that Indiana's only measurable criteria for teaching content-specific courses in high school is holding a major in that content area. Indiana's teacher standards do not specifically refer to new teachers nor do they delineate the knowledge requirements the state holds for entry-level teachers. The report recommends that Indiana revise its teacher standards to exclude all untestable and emotionally driven statements and to more clearly address the requirements held for new teachers.

In addition, Indiana's policies do not reflect the strong research consensus in reading instruction that has emerged over the last few decades. Teacher preparation programs, still caught up in the reading wars, may resist teaching scientifically based reading instruction. As reading is the foundation for all learning—and an important part of the academic rigor of higher education—it is imperative that all of Indiana's teacher preparation programs teach reading instruction based on scientific research.

Revising Indiana's teacher standards is necessary to articulate the entry-level knowledge and skills that all teachers in the state must have and be able to demonstrate. In addition, Indiana needs a pedagogy test aligned with clear standards that describe what teachers should know and be able to do to ensure that they have the requisite professional knowledge for the classroom.

Recommendations:

- Indiana's standards for new teachers should be revised to provide clear and measurable expectations for entry-level teachers as well as clearly define and set the content level expectations for teacher preparation programs. Indiana must ensure that all teachers are masters of the subject matter that they teach.
- Reading is fundamental to college success. Indiana should ensure that new teachers know the science of reading instruction by adopting more specific teacher standards that reflect the science described in the National Reading Panel's 2000 report "Teaching Children to Read."
- Indiana should require new teachers to pass a rigorous test of reading instruction in order to attain licensure. Elementary teachers who do not possess the minimum knowledge needed should not be eligible for a teaching license.

Shortage of Math and Science Teachers

Shortages of teachers in key content areas challenges schools in their work to ensure all students get the rigorous coursework higher education and the global economy demands. While high schools are failing to prepare enough students for success in college and the workforce, colleges are failing to produce enough teachers prepared to succeed at teaching the key content areas of a rigorous high school curriculum – including mathematics, science and world languages. Special education constitutes a high percent of the shortage. While the state has an over-abundance of elementary teachers, Indiana schools continue to experience shortages in critical content areas. In addition, there is a growing need to expand the pool of school principals prepared and willing to take on the challenges demanded today.

Recommendations:

- Higher education must be informed and willing partners in stemming these shortages by accelerating the recruitment of our very best into the teaching profession – and providing incentives for students to pursue teaching careers in the shortage areas.
- Indiana should regularly review the professional coursework that teacher candidates are required to take, in order to ensure an efficient and balanced program of study and to control unnecessary coursework creep as noted in the recent state policy analysis by the National Council on Teacher Quality – State Teacher Policy Yearbook.

Expanding University Research to Inform Efforts to Improve Classroom Learning

Approximately 85% of the teachers, administrators, curriculum directors and school counselors working in Indiana's public K-12 schools received their professional training from an Indiana college or university. Conversely, 84% of all the students entering Indiana's public colleges and universities fall 2006 were prepared in Indiana high schools – ranging from 100% at many of the regional and community college campuses to 62% and 65% at IU-Bloomington and PU-West Lafayette respectively.

With such a vested and connected interest in ensuring our K-12 partners succeed at preparing students for college success, we must take advantage of and expand opportunities for our institutions to conduct meaningful and relevant research that will inform classroom instruction and school leadership.

Recommendations:

- Indiana's colleges and universities should examine practices to eliminate barriers to research focused on informing and assisting our K-12 partners in improving student achievement and leading effective schools.
- Indiana's colleges and universities should be doing research that informs and advances the work of educators in our state.

Reflecting on Our Respective Roles and Responsibilities

It is interesting to note that nationally the fastest growing part of the high school curriculum at the moment is Advanced Placement (AP) and dual credit—or college-level courses. At the same time, the fastest growing part of the college curriculum is remedial—or high school-level courses. This information might call into question if it makes sense for us each to keep trying to do the other's work.

Colleges providing remediation for ill-prepared recent high school grads divert resources away from collegiate-level instruction. Despite Indiana's steps to move remedial coursework out of our more expensive research universities and into a more cost effective community colleges delivery, providing high school-level work at the college-level costs the state, the institution and the student. The costs may be greatest to the individual -- many of these students leave college before earning a degree.

High schools delivering dual credit or AP to students already on-track for college may be diverting resources away from students with the greatest needs. For example, might some of those students in AP be better off in actual college courses taught by college professors? And, if so, wouldn't that free up some of our best-educated high school teachers to teach the students who MOST need their help?

Recommendation:

- Consider this information and as we work together to find the most effective ways to help all students achieve.

Summary of Key College Preparation Recommendations

1. Academic Preparation for College Success (K-12 Pipeline)

- Indiana's colleges and universities should encourage more students to complete **Core 40 with Academic and Technical Honors** – so that by 2011, at least 50% of Indiana high school students complete one of these diplomas.
- Ball State University, Indiana University-Bloomington, and Purdue University-West Lafayette should move toward requiring Core 40 with Academic and Technical Honors as a **minimum admissions standard** – allowing time to clearly communicate this increased expectation to students, families and high schools.
- Indiana's colleges and universities should be intentional partners in efforts to grow the pool of Hoosier students meeting this more rigorous requirement. Particular attention should be paid to **closing achievement gaps** between minority and low-income students and their non-poor peers.
- Indiana should require students to take a **rigorous math class their senior year** and **world language** should become a core course requirement to earn a Core 40 diploma.

2. Ensuring Core 40 Rigor: A Common Measure of Readiness for Credit Bearing Coursework

- Collectively, between K-12 and higher education, define a **common metric** (i.e., identified passing score on an assessment) that will be used to determine if a student is **ready to start credit bearing college-level course work**. This same information would determine the need for remediation.
- Make available to all schools and students a common set of tools that students may take advantage of at key points during their K-12 years. These assessments must provide **understandable and dependable signals** of whether or not a student is on-track for college-readiness. (i.e., ACT tools – EXPLORE, PLAN, ACT and College Board tools – new 8th grade assessment, PSAT, SAT; CSU Early Assessment Program; etc.).
- **Communicate information** from these college-ready assessments in meaningful ways that provide schools, teachers, students and families with a clear understanding of where the students are in terms of their academic progression. This information should be provided early and often so that the student can **use the junior or senior year of high school to correct any deficiencies** rather than taking remedial coursework in college.

3. Improving College-Readiness of Low-Income and Minority Students

- Indiana's colleges and universities should work alongside school systems with high numbers of low-income and first generation college families to provide **extra academic support**. College faculty should be encouraged to develop long-standing relationships with high school faculty to support student success in key academic areas – assisting with **instructional alignment between the last years of high school and first years of college**.
- Indiana's colleges and universities should develop targeted initiatives to provide **academic support and acceleration opportunities for 21st Century Scholars** students in grades 6-12.
- Indiana's colleges and universities should be encouraged to provide **“bridge” programs** – to more actively support and recruit students.
- Advanced Placement course-taking information should be disaggregated at the state-level and the high school-level to provide information on who is receiving these opportunities. Efforts to expand AP and high quality dual credit should ensure that those most in need of this rigorous coursework get it. **Pre-AP initiatives should be expanded** to increase the number of students prepared to succeed in AP in high school.

4. Preparation of Teachers and School Leaders for K-12 Success (Higher Education Pipeline)

- Indiana's colleges and universities must make the **preparation of educators and school leaders a top priority** and align resources accordingly and work closely with our K-12 counterparts to improve the preparation of teachers, school leaders, counselors.
- Indiana should work to **transform education schools** into professional schools that focus on classroom practice. Medical schools provide a model.
- Indiana should collect and make available meaningful data to inform schools, institutions, the public and policymakers about the **quality and effectiveness of teacher preparation programs** throughout the state. The primary measure of program success should be student achievement.
- Indiana should continue developing **longitudinal data systems** that record student learning growth K-16. This would be an indication of how successful education schools are in preparing teachers to staff K-12 schools. Louisiana is a leading example of how universities can mine K-12 data to improve teacher preparation program.

5. Teacher Content Knowledge Expectations

- Indiana's standards for new teachers should be revised to provide clear and measurable expectations for entry-level teachers as well as clearly define and set the content level expectations for teacher preparation programs. Indiana must **ensure that all teachers are masters of the subject matter that they teach**.
- Reading is fundamental to college success. Indiana should ensure that new teachers know the science of **reading instruction** by adopting more specific **teacher standards** that reflect the science described in the National Reading Panel's 2000 report "Teaching Children to Read."
- Indiana should require new teachers to pass a **rigorous test of reading instruction** in order to attain licensure. Elementary teachers who do not possess the minimum knowledge needed should not be eligible for a teaching license.

6. Teacher Shortages

- Higher education must be informed and willing partners in stemming teacher shortages by accelerating the **recruitment of our very best into the teaching profession** – and providing incentives for students **to pursue math, science, world language and special education teaching careers**.
- Indiana should regularly review the professional coursework that teacher candidates are required to take, in order to ensure an efficient and balanced program of study and to **control unnecessary coursework creep** noted in the recent state policy analysis by the National Council on Teacher Quality – State Teacher Policy Yearbook.

7. Research to Improve Teaching and Learning

- Indiana's colleges and universities should **examine practices to eliminate barriers to research** focused on informing and assisting our K-12 partners in improving student achievement and leading effective schools.
- Indiana's colleges and universities should be doing **research that informs and advances the work of K-12 educators** in our state.

8. Roles and Responsibilities

- Consider **roles and respective responsibilities** and current trend information as we work together to find the most effective ways to help all students achieve.